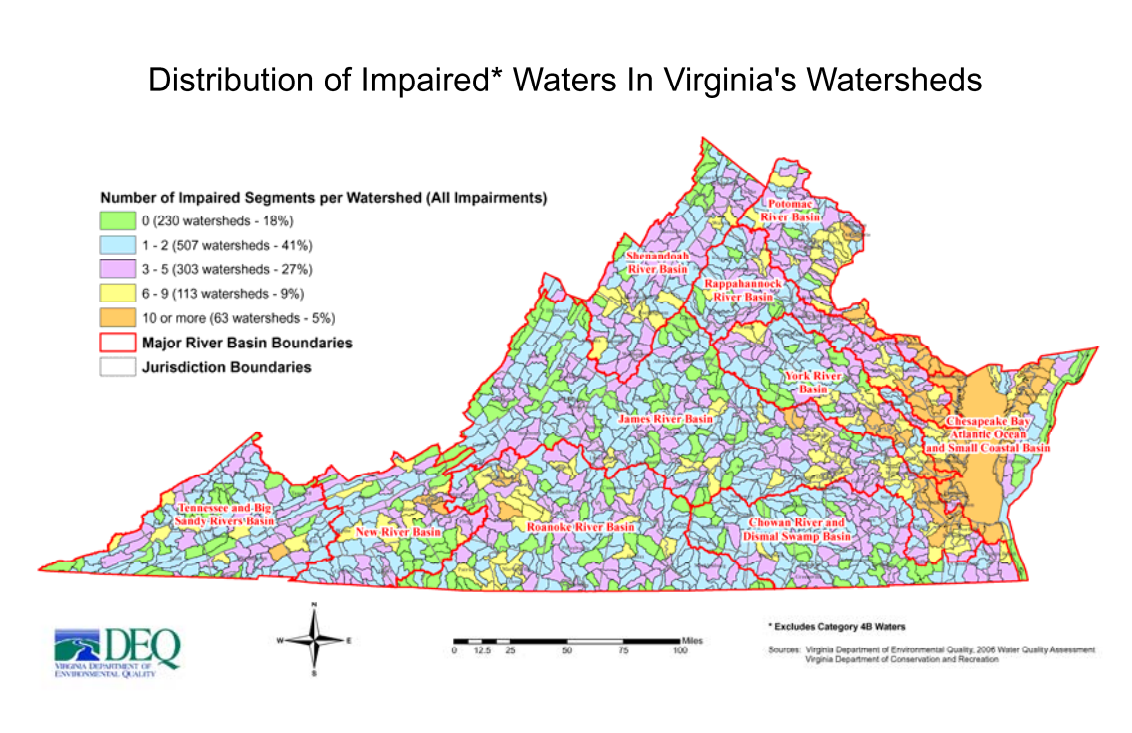
Virginia's TMDL Process



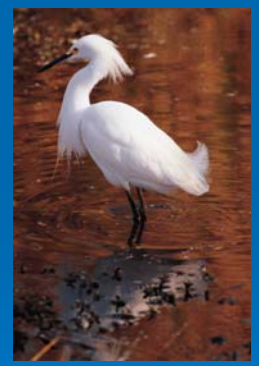
DMLR Workshop

September 28, 2006

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

What is a Total Maximum Daily Load ("TMDL") ?

- TMDL – Total Maximum Daily Load
  - Total amount of a pollutant a water body can contain and still meet water quality standards



- To restore water quality, pollutant levels have to be reduced to the TMDL amount

Legal Basis for TMDLs

Nationally:

1972 Clean Water Act (CWA)

- Water quality monitoring
- Assessment and listing
- TMDLs

Legal Basis for TMDLs

In Virginia:

1997 Water Quality Monitoring Information and Restoration Act (WQMIRA)

Goal of TMDL Program

To restore and maintain water quality in impaired waters

Steps in TMDL Process

- Place impaired waters on 303(d) list
- Develop TMDL(s)
- Implement TMDL
  - Permits
  - TMDL implementation plan
- Remove waters from 303(d) list

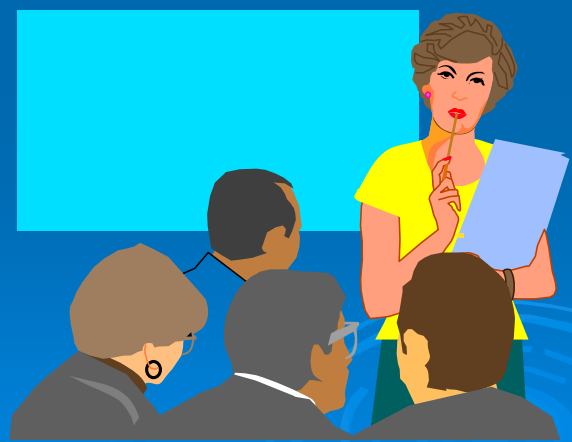
Virginia's TMDL Action Schedule

DEQ TMDL Submittal Dates	Consent Decree Schedule For Impaired Segments (See Note)	Credit Limit for Waters Removed From List
5/1/99	1	0
5/1/00	12	2
5/1/02	30	6
5/1/04	83	11
5/1/06	208	13
5/1/08	131	14
5/1/10	179	14
TOTAL	644	60

Note: As of 2006 Draft Water Quality Assessment, an additional ~1,200 Waters will need TMDLs between 2011 and 2018

Public Participation During the TMDL Development Process

- Public participation is crucial
  - At least 2 public meetings
  - Advisory group meetings
  - Notification process



TMDL Development

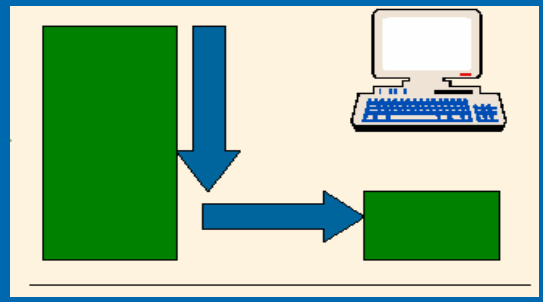
A TMDL Study identifies all sources of pollution:

Point source pollution

Non-point source pollution

TMDL Development

Then:



- Quantify the amount of pollutants
- Calculate the pollutant reductions needed
- Allocate allowable load to sources

Required Elements of TMDL Development

TMDLs must

- ✓ be developed to meet water quality standards
- ✓ account for critical stream conditions
- ✓ consider seasonal variations
- ✓ include waste load and load allocations
- ✓ include a margin of safety (explicit or implicit)
- ✓ consider impacts of background contributions
- ✓ be subject to public participation
- ✓ have reasonable assurance for implementation

TMDL format

TMDL =

Sum of WLA + Sum of LA + MOS

Where: TMDL = Total Maximum Daily Load
WLA = Waste Load Allocation (PS)
LA = Load Allocation (NPS)
MOS = Margin of Safety

- load/year vs. load/day

Experience To Date

- Scale of TMDL projects
- Pollutants addressed
- Pollutant sources identified
- Pollutant reductions required

Approval Actions

- TMDLs submitted to EPA for approval
- Permit implications of EPA approval
- TMDLs presented to SWCB for approval
- In some cases, WLAs adopted as part of the water quality management planning regulation

TMDL Implementation

- WQMIRA requirements
- Cooperative process
- Various mechanisms and funding sources
  - Permitting
  - Incentives
  - Voluntary
- 2003 Guidance Manual for TMDL implementation plans
- HB 1150

TMDL Implementation

- WLAs are implemented through permits
- LAs are implemented through existing incentive and regulatory programs, and voluntarily

Staged Implementation

TMDLs typically include staged reduction targets

- Allows most cost-effective measures to be implemented first
- Allows iterative evaluation of TMDL adequacy in achieving water quality standard
- Last stage may require review/change of WQS

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